

Amendments to the Claims:

1. (Currently amended) Method for producing a grating image of a security element, which at least has one grating field seperately perceptible with the naked eye, said method comprising the following steps:
 - defining a contour line of the grating field,
 - filling the contour line with the grating pattern, the grating pattern within the contour line being described by grating coordinates,
 - supplying the grating coordinates to a writing apparatus and
 - producing the grating pattern in a substrate with the writing apparatus and with the help of the grating coordinates.
2. (Currently Amended) Method according to claim 1, ~~characterized in that~~ wherein the grating pattern is formed by grating lines which are disposed side by side.
3. (Currently Amended) Method according to claim 2, ~~characterized in that~~ wherein as grating coordinates are selected the intersection points, the grating lines have with the contour line, ~~lying within the contour line~~.
4. (Currently Amended) Method according to claim 1, ~~characterized in that~~ wherein with the help of a data processing system the contour line of the grating field is created and filled with the grating pattern.
5. (Currently Amended) Method according to claim 1, ~~characterized in that~~ wherein the grating lines are straight or curved.

6. (Currently Amended) Method according to claim ~~[[1]]~~ 2, ~~characterized in that~~ wherein the grating coordinates of the grating lines are sequentially sorted according to their spatial disposition.
7. (Currently Amended) Method according to claim 6, ~~characterized in that~~ wherein the coordinates of a starting point of a grating line are sorted side by side with the respective coordinates of a starting point of a neighboring grating line and the coordinates of an end point of a grating line side by side with the respective coordinates of an end point of a further neighboring grating line.
8. (Currently Amended) Method according to claim 7, ~~characterized in that~~ wherein the starting points and end points of grating lines located side by side are connected to form a meandering processing path.
9. (Currently Amended) Method according to claim 1, ~~characterized in that~~ wherein the writing apparatus with the help of radiation causes a change of state in a radiation-sensitive material.
10. (Currently Amended) Method according to claim 9, ~~characterized in that~~ wherein the writing apparatus is guided over the radiation-sensitive material according to the grating coordinates.
11. (Currently Amended) Method according to claim 9, ~~characterized in that~~ wherein as a radiation-sensitive material a photoresist layer applied onto a substrate plate is used.

12. (Currently Amended) Method according to claim 1, ~~characterized in that~~ wherein as a writing apparatus an electron beam is used.
13. (Currently Amended) Method according to claim 9, ~~characterized in that~~ wherein after the caused change of state a metallization layer is applied onto the radiation-sensitive material and that therefrom a metallic molding is galvanically produced.
14. (Currently Amended) Method according to claim 13, ~~characterized in that~~ wherein the molding is used as an embossing die for embossing a grating image into a substrate.
15. (Currently Amended) Grating image of a security element, which has at least one image field separately perceptible with the naked eye, in which a grating pattern consisting of not interrupted grating lines is disposed, which is produced by means of a lithography instrument.
16. (Currently Amended) Grating image according to claim 15, ~~characterized in that~~ wherein as a lithography instrument focussed light radiation or a focussed particle beam, is used.
17. (Currently Amended) Grating image according to claim 15, ~~characterized in that~~ wherein the grating image has several image fields.

18. (Currently Amended) Grating image according to claim 15, ~~characterized in that~~ wherein the grating image has further image parts, which are manufactured with the help of a different technique.
19. (Currently Amended) Grating image, according to claim 15, ~~characterized in that~~ wherein the grating pattern comprises grating lines, which form a diffraction grating.
20. (Currently Amended) Grating image according to claim 15, ~~characterized in that~~ wherein the grating lines are connected to at least one meandering grating line by reversing sections disposed at their ends.
21. (Currently Amended) Grating image according to claim 15, ~~characterized in that~~ wherein the reversing distances are rounded.
22. (Previously Presented) Security element with a grating image according to claim 15.
23. (Currently Amended) Security element according to claim 22, ~~characterized in that~~ wherein the security element is a security thread, a label or a transfer element.
24. (Previously Presented) Security paper with a grating image according to claim 15.
25. (Previously Presented) Security paper with a security element according to claim 22.

26. (Previously Presented) Security document with a grating image according to claim 15.
27. (Previously Presented) Security document with a security element according to claim 22.
28. (Previously Presented) Security document with a security paper according to claim 24.
29. (Previously Presented) Transfer material with a grating image according to claim 15.
- 30-31. (Canceled)
32. (Currently Amended) The method of claim 3 wherein ~~the~~ grating points of the grating field lie lying within the contour line are also selected as grating coordinates.
33. (Previously Presented) The grating image of claim 16 wherein said particle beam is an electron beam.
34. (Previously Presented) A security paper with a security element according to claim 23.
35. (Previously Presented) A security document with a security element according to claim 23.
36. (Previously Presented) A security document with a security paper according to claim 25.

37. (Previously Presented) The transfer material of claim 29, comprising hot stamping foil.